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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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08/897,953

07/24/1997

HIDEHIKO KIRA

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23850 7590 10/16/2008  
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EXAMINER

GRAYBILL, DAVID E

ART UNIT

PAPER NUMBER

2894

MAIL DATE

DELIVERY MODE

10/16/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 08/897,953	<b>Applicant(s)</b> KIRA ET AL.	
	<b>Examiner</b> David E. Graybill	<b>Art Unit</b> 2894	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5,8-10,15-17 and 19 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5,8,15-17 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 1995 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following claimed subject matter must be shown or the feature(s) canceled from the claim(s):

Re claim 18: performing a first fixing of the semiconductor chips by pressing the semiconductor chips with a first pressure by a bonding head to which the semiconductor chips are absorbed when the thermosetting insulating adhesive is cured by the heating means.

Re claim 19: pressing the semiconductor chip to the substrate when the thermosetting insulating adhesive is cured by the first heating means.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

Art Unit: 2894

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 8, 15-17 and 19 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility.

In particular there is no asserted utility for the following:

Re claim 18: performing a first fixing of the semiconductor chips by pressing the semiconductor chips with a first pressure by a bonding head to which the semiconductor chips are absorbed when the thermosetting insulating adhesive is cured by the heating means.

Re claim 19: pressing the semiconductor chip to the substrate when the thermosetting insulating adhesive is cured by the first heating means.

In fact, the totality of the record, including the original disclosure and applicant's subsequent remarks, consistently teaches away from pressing the chip when the adhesive is cured. For example, at page 9, lines 13-17, applicant discloses:

At the same time, the bonding head 40 with the semiconductor chip 31 is pressed against the mounting pads 37a with the first pressure to perform a tentative fixing (a step S6 [which recites, "TENTATIVELY [sic] FIX TO THE CHIP BY PRESSING ONLY] in FIG. 3, FIG. 4E).

Art Unit: 2894

Also, at page 11, lines 10-18, applicant summarizes:

According to the fabrication method of the semiconductor chip, first the semiconductor chip, on which the projection electrodes are formed, is aligned to the substrate, and is fixed in the first fixing by the pressing only. After that, the pressing and heating for thermosetting the insulating adhesive are performed. In such way, the first fixing is performed in a different process from the pressing and heating.

Also, in the remarks filed on 10-31-7, page 8, lines 14-16 applicant asserts:

On the other hand, the Applicants not employ two steps of pressing the chips but also press without heat in the first step while, in the second step, the chips are heated and pressed.

Claims 5, 8, 15-17 and 19 are also rejected under 35 U.S.C. 112, first paragraph.

Specifically, since the claimed invention is not supported by either a substantial or credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claims 5, 8, 15-17 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The undescribed subject matter is the following:

Re claim 18: performing a first fixing of the semiconductor chips by pressing the semiconductor chips with a first pressure by a bonding head to which the semiconductor chips are absorbed when the thermosetting insulating adhesive is cured by the heating means.

Re claim 19: pressing the semiconductor chip to the substrate when the thermosetting insulating adhesive is cured by the first heating means.

Claims 5, 8, 15-17 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is insufficient antecedent basis for the following claim language:

Re claim 18: the thermosetting insulating adhesive is cured by the heating means.

Re claim 19: the thermosetting insulating adhesive is cured by the first heating means.

The scope of the following conditional language is unclear:

Re claim 18: when the thermosetting insulating adhesive is cured by the heating means.

Re claim 19: when the thermosetting insulating adhesive is cured by the first heating means.

To further clarify, it is not clear if the conditions, “the thermosetting insulating adhesive is cured by the heating means,” and, “the thermosetting insulating adhesive is cured by the first heating means,” are manipulative or optional process limitations.

Applicant's remarks filed on 6-26-8 have been fully considered and are deemed moot in view of the new grounds of rejection.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2894

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**For information on the status of this application applicant should check PAIR:**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Alternatively, applicant may contact the File Information Unit at (703) 308-2733. Telephone status inquiries should not be directed to the examiner. See MPEP 1730VIC, MPEP 203.08 and MPEP 102.**

Any other telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.  
The fax phone number for group 2800 is (571) 273-8300.

/David E Graybill/  
Primary Examiner, Art Unit 2894